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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/931,803	08/16/2001	Walter J. Schon	002.0212.01	3342

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EXAMINER

CHAI, LONGBIT

ART UNIT	PAPER NUMBER
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2131

DATE MAILED: 11/24/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	09/931,803	SCHON ET AL.	
	<b>Examiner</b>	<b>Art Unit</b>	
	Longbit Chai	2131	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 10 January 2002.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☐ Claim(s) \_\_\_\_\_ is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-70 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 16 August 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>01-10-2002</u> . | 6) <input type="checkbox"/> Other: _____  |

## DETAILED ACTION

### *Priority*

1. No claim for priority has been made in this application.

The effective filing date for the subject matter defined in the pending claims in this application is 8/16/2001.

### ***Claim Rejections - 35 USC § 112***

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

2. Claims 41 and 68 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. The claim limitation "employing a public key corresponding to the encryption cryptographic key and a private key corresponding to the decryption cryptographic key for a digital signature" is not enabled by the specification according to the disclosure on 2<sup>nd</sup> Paragraph of Page 16. Besides, the use of private key (instead of public key) to generate the digital signature is the well-known method in the field.

***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraph of 35 U.S.C. 102 that forms the basis for the rejections under this section made in this Office action:

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1, 7 – 8, 10, 16 – 17, 20, 24 – 26, 30 – 31, 33, 37 – 39, 43 – 44, 49, 54, 59, 62, 66 and 69 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Brothers (Patent Number: 5799083), hereinafter referred to as Brothers.

As per claims 1, 10, 20, 26, 33 and 39, Brothers teaches a system for automatically protecting private video content using embedded cryptographic security, comprising: a recorder frame buffer dividing a substantially continuous video signal representing raw video content into individual frames which each store a fixed amount of data in digital form; an encryption module encrypting each individual frame into encrypted video content using an encryption cryptographic key and storing the encrypted frames on a transportable storage medium; a decryption module retrieving encrypted frames from the transportable storage medium and decrypting each encrypted frame using a decryption cryptographic key that is verified prior to decryption; and a playback frame

buffer combining the decrypted frames into a substantially continuous video signal representing the raw video content in reconstructed form (Brothers, see for example, Column 4 Line 21 – 33, Column 9 Line 39 – 66, Column 2 Line 1 – 17, Column 4 Line 48 – 52 and Column 8 Line 58 – 65).

As per claims 7, 16, 24, 30, 37 and 43, Brothers teaches the claimed invention as described above (see claim 1, 10, 20, 26, 33 and 39 respectively). Brothers further teaches a symmetric cryptographic key pair comprising a substantially identical key corresponding to each of the encryption cryptographic key and the decryption cryptographic key (Brothers, see for example, Column 2 Line 11 – 12).

As per claims 8, 17, 25, 31, 38, 44, 49, 54, 59, 62, 66 and 69, Brothers teaches the claimed invention as described above (see claim 1, 10, 20, 26, 33, 39, 46, 51, 57, 60, 64 and 67 respectively). Brothers further teaches a removable storage medium storing at least one of the encryption cryptographic key and the decryption cryptographic key (Brothers, see for example, Column C1 Line 59 – 61).

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 2 – 3, 5 – 6, 9, 11 – 12, 14 – 15, 18 – 19, 21 – 23, 27 – 29, 32, 34 – 36, 40 – 42, 45 – 48, 50 – 53, 55 – 58, 60 – 61, 63 – 65, 67 – 68 and 70 are rejected under 35 U.S.C. 103(a) as being unpatentable over Brothers (Patent Number: 5799083), hereinafter referred to as Brothers, in view of Barton (Patent Number: 5912972), hereinafter referred to as Barton.

As per claims 2, 11, 21, 27, 34 and 40, Brothers teaches the claimed invention as described above (see claim 1, 10, 20, 26, 33 and 39 respectively). Brothers further teaches the encryption and decryption algorithms using a public key system (Brothers, see for example, Column 2 Line 14 – 15). However, Brothers does not disclose expressly a signature module generating a fixed-length original cryptographic hash from at least one such individual frame, encrypting the original cryptographic hash using an encryption cryptographic key, and storing the

encrypted original cryptographic hash as a digital signature on the transportable storage medium.

Barton teaches a signature module generating a fixed-length original cryptographic hash from at least one such individual frame, encrypting the original cryptographic hash using an encryption cryptographic key, and storing the encrypted original cryptographic hash as a digital signature on the transportable storage medium (Barton, see for example, Column 4 Line 18 – 32).

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to combine the teaching of Barton within the system of Brothers because Barton teaches achieving as unique a signature as possible within the bounds of cost and efficiency for a video frame (Barton: see for example, Column 52 Line 35 – 37 and Column 4 Line 26 – 29).

As per claims 3, 12, 22, 28, 35, 41, 47, 52, 58, 61, 65 and 68, Brothers teaches the claimed invention as described above (see claim 2, 11, 21, 27, 34, 40, 46, 51, 57, 60, 64 and 67 respectively). Brothers further teaches providing the encryption and decryption algorithms in use of a public key system (Brothers, see for example, Column 2 Line 14 – 15). Official Notice is taken that the use of an asymmetric cryptographic key pair comprising a private key corresponding to the encryption

cryptographic key and a public key corresponding to the decryption cryptographic key for digital signature verification of is one of the well-known methods in the field.

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to use a private key corresponding to the encryption cryptographic key and a public key corresponding to the decryption cryptographic key for digital signature verification.

As per claims 5, 14, 23, 29, 36 and 42, Brothers teaches the claimed invention as described above (see claim 1, 10, 20, 26, 33 and 39 respectively). Brothers further teaches the encryption and decryption algorithms using a public key system (Brothers, see for example, Column 2 Line 14 – 15). However, Brothes does not disclose expressly an asymmetric cryptographic key pair comprising a public key corresponding to the encryption cryptographic key and a private key corresponding to the decryption cryptographic key.

Barton teaches an asymmetric cryptographic key pair comprising a public key corresponding to the encryption cryptographic key and a private key corresponding to the decryption cryptographic key (Barton, see for example, Column 7 Line 19 – 26).



It would have been obvious to a person of ordinary skill in the art at the time the invention was made to combine the teaching of Barton within the system of Brothers because Barton teaches achieving as unique a signature as possible within the bounds of cost and efficiency for a video frame (Barton: see for example, Column 52 Line 35 – 37 and Column 4 Line 26 – 29).

As per claim 6, 15, 48, and 53, see same rationale addressed above in rejecting claim 5.

As per claims 9, 18, 50 and 55, Brothers teaches the claimed invention as described above (see claim 8, 17, 49 and 54 respectively). Brothes does not disclose expressly a set of cryptographic instructions stored on the removable storage medium and employing at least one of the encryption cryptographic key and the decryption cryptographic key.

Barton teaches a set of cryptographic instructions stored on the removable storage medium and employing at least one of the encryption cryptographic key and the decryption cryptographic key (Barton, see for example, Column 7 Line 24 – 25).

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to combine the teaching of Barton within the system of Brothers because Barton teaches achieving as unique a

Art Unit: 2131

signature as possible within the bounds of cost and efficiency for a video frame (Barton: see for example, Column 52 Line 35 – 37 and Column 4 Line 26 – 29).

As per claim 19, 32, 45, 56, 63 and 70, a computer-readable storage medium for performing the methods is provided as taught by Brothers and Barton.

As per claim 46, 51, 57, 60, 64 and 67, claim 46, 51, 57, 60, 64 and 67 encompasses the same scope as described in claim 1 and claim 2.

Therefore, see same rationale addressed above in rejecting claim 1 and 2.

5. Claims 4, 13 and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Brothers (Patent Number: 5799083), hereinafter referred to as Brothers, in view of Filipi-Martin (Patent Number: US 2002/0112168 A1), hereinafter referred to as Filipi-Martin.

As per claim 4 and 13, Brothers teaches the claimed invention as described above (see claim 1 and 10 respectively). Brothers does not disclose expressly a validation module validating the decryption cryptographic key against user-provided credentials prior to decrypting the encrypted frames.

Filipi-Martin teaches a validation module validating the decryption cryptographic key against user-provided credentials prior to decrypting the encrypted frames (Filipi-Martin: see for example, Paragraph [0007] Line 3<sup>rd</sup> Sentence).

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to combine the teaching of Filipi-Martin within the system of Brothers because Filipi-Martin teaches providing a method so that the validity of the receiver of possessing the decryption key can be assured.

As per claim 19, a computer-readable storage medium for performing the methods is provided as taught by Brothers and Filipi-Martin.

Art Unit: 2131


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Longbit Chai whose telephone number is 703-305-0710. The examiner can normally be reached on Monday-Friday 8:00am-5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ayaz R Sheikh can be reached on 703-305-9648. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Longbit Chai  
Examiner  
Art Unit 2131

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